IN THE CLAIMS:

Claims 6, 7, 10, 17, and 19-22 have been amended herein. All of the pending claims 1 through 25 are presented below. This listing of claims will replace all prior versions and listings in the application. Please enter these claims as amended.

1. (Original) An insulating material for a rocket motor, comprising:
a cured elastomer; and
vapor-grown carbon fibers dispersed in the cured elastomer.

2. (Original) The insulating material of claim 1, wherein the vapor-grown carbon fibers comprise an internal graphitized tube surrounded by a sheath of vapor-deposited amorphous carbon.

3. (Original) The insulating material of claim 1, wherein the vapor-grown carbon fibers have an average diameter from about 0.1 micron to about 0.8 micron.

4. (Original) The insulating material of claim 3, wherein the average diameter of the vapor-grown carbon fibers is about 0.2 micron.

5. (Original) The insulating material of claim 1, wherein the vapor-grown carbon fibers have an average length from about 50 microns to about 200 microns.

6. (Currently Amended) The insulating material of claim 1, wherein the vapor-grown carbon fibers comprise not more than 30 weight percent of a total weight of the ~~insulation~~ insulating material.

7. (Currently Amended) The insulating material of claim 6, wherein the vapor-grown carbon fibers comprise at least 10 weight percent of the total weight of the ~~insulation~~ insulating material.

8. (Original) The insulating material of claim 1, wherein the cured elastomer is formed from a precursor composition comprising at least one crosslinkable polymer.

9. (Original) The insulating material of claim 8, wherein the at least one crosslinkable polymer comprises between about 55 weight percent and about 70 weight percent of a total weight of the precursor composition.

10. (Currently Amended) The insulating material of claim 8, wherein the at least one crosslinkable polymer is selected from the group consisting of EPDM terpolymer, polybutadiene, polyisoprene, poly(~~acrylonitirle~~acrylonitrile-co-butadiene), and a precursor of natural rubber.

11. (Original) The insulating material of claim 8, wherein the precursor composition further comprises a sulfur-containing curative.

12. (Original) The insulating material of claim 1, wherein the insulating material is formulated to have a perpendicular and a parallel elongation of greater than 30%, a parallel tensile strength of greater than 1000 psi, and a tear resistance of greater than 170 pli.

13. (Original) The insulating material of claim 1, wherein the insulating material is formulated to have a volume resistivity between about 5×10^9 and 5×10^{14} Ohms·cm.

14. (Original) A method for making an insulating material for a rocket motor, comprising:

providing a composition comprising at least one crosslinkable polymer and vapor-grown carbon

fibers;

dispersing the vapor-grown carbon fibers in the at least one crosslinkable polymer; and

crosslinking the at least one crosslinkable polymer to form a cured elastomeric insulating material having the vapor-grown carbon fibers dispersed therein.

15. (Original) The method of claim 14, wherein dispersing the vapor-grown carbon fibers in the at least one crosslinkable polymer comprises dispersing vapor-grown carbon fibers having an internal graphitized tube surrounded by a sheath of vapor-deposited amorphous carbon in the at least one crosslinkable polymer.

16. (Original) The method of claim 14, wherein dispersing the vapor-grown carbon fibers in the at least one crosslinkable polymer comprises dispersing vapor-grown carbon fibers having an average diameter of about 0.1 micron to about 0.8 micron in the at least one crosslinkable polymer.

17. (Currently Amended) The method of claim ~~15~~ 16, wherein ~~dispersing~~ dispersing the vapor-grown carbon fibers having ~~an~~ the average diameter of about 0.1 micron to about 0.8 micron in the at least one crosslinkable polymer comprises dispersing vapor-grown carbon fibers having an average diameter of about 0.2 micron in the at least one crosslinkable polymer.

18. (Original) The method of claim 14, wherein dispersing the vapor-grown carbon fibers in the at least one crosslinkable polymer comprises dispersing vapor-grown carbon fibers having an average length between about 50 microns and about 200 microns in the at least one crosslinkable polymer.

19. (Currently Amended) The method of claim 14, wherein providing ~~a~~ the composition comprising ~~at~~ the at least one crosslinkable polymer ~~and~~ and the vapor-grown carbon fibers comprises providing a composition comprising at least one crosslinkable polymer

selected ~~from~~ from the group consisting of EPDM terpolymer, polybutadiene, polyisoprene, poly(~~acrylonitirle~~acrylonitrile-co-butadiene), and a precursor of natural rubber.

20. (Currently Amended) The method of claim 14, wherein providing ~~a~~ the composition comprising ~~at~~ the at least one crosslinkable polymer ~~and~~ and the vapor-grown carbon fibers comprises providing a composition comprising at least one crosslinkable polymer, vapor-grown carbon fibers and a sulfur-containing curative.

21. (Currently Amended) The method of claim 14, wherein crosslinking the at least one crosslinkable polymer to form ~~a~~ the cured elastomeric insulating material comprises crosslinking the at least one crosslinkable polymer to form a cured elastomeric insulating material formulated to have a volume resistivity between about 5×10^9 and 5×10^{14} Ohms·cm.

22. (Currently Amended) The method of claim 14, wherein crosslinking the at least one crosslinkable polymer to form ~~a~~ the cured elastomeric insulating material comprises crosslinking the at least one crosslinkable polymer to form a cured elastomeric insulating material having a perpendicular and a parallel elongation of greater than 30%, a parallel tensile strength of greater than 1000 psi, and a tear resistance of greater than 170 pli.

23. (Original) The method of claim 14, wherein dispersing the vapor-grown carbon fibers in the at least one crosslinkable polymer is performed under substantially solvent-free conditions.

24. (Original) The method of claim 14, wherein dispersing the vapor-grown carbon fibers in the at least one crosslinkable polymer is performed in the absence of an organic solvent.

25. (Original) The method of claim 14, wherein dispersing the vapor-grown carbon fibers in the at least one crosslinkable polymer comprises substantially homogeneously dispersing the vapor-grown carbon fibers in the at least one crosslinkable polymer.